

Remarks

I. Status of Claims

Claims 15-16 and 18-27 are pending in the application. Claim 15 is the only independent claim. Claims 1-14 were previously canceled, and without waiving any argument (and to facilitate prosecution), claim 17 is canceled without prejudice to and/or disclaimer of the subject matter therein. Claims 15, 18, 21-22, and 25 are currently amended.

Claims 15 and 22 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter the applicant regards as the invention.

Claims 15, 17, 25, and 26 are rejected under 35 USC 102(b) as allegedly being anticipated by Takabayashi (USP 4,741,978) (hereinafter “Takabayashi”).

Claims 15-18, 20, 21, 23, 26, and 27 are rejected under 35 USC 103(a) as allegedly being unpatentable over Nonobe et al. (USPGPUB 2002/0094467 A1) (hereinafter “Nonobe”).

Claims 19, 20 and 21 are rejected under 35 USC 103(a) as allegedly being unpatentable over Nonobe as applied to claims 15, 17 and 18 above, and in further view of Ferguson et al. (USP 6,463,949 B2) (hereinafter “Ferguson”).

Claim 19 is rejected under 35 USC 103(a) as allegedly being unpatentable over Nonobe in view of Ferguson as applied to claims 15, 17, 18, 20, and 21 above, and in further view of Sugawara et al.. (USP 7,279,242 B2) (hereinafter “Sugawara”).

Claims 22 and 24 are rejected under 35 USC 103(a) as allegedly being unpatentable over Nonobe as applied to claims 15, 17, 18 and 23 above, and in further view of Clack et al. (USP 6,017,192).

The Applicant respectfully requests reconsideration of these rejections in view of the foregoing amendments and the following remarks.

II. 35 USC § 112, second paragraph, Rejections

Claims 15 and 22¹ stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter the applicant regards as the invention.

The Applicant respectfully submits that claims 15 and 22 are amended to obviate any perceived ambiguity and withdrawal of the rejections is respectfully requested.

III. Pending Claims

Claim 15, the only independent claim, stands rejected under 35 USC 102(b) as allegedly being anticipated by Takabayashi and under 35 USC 103(a) as allegedly being unpatentable over Nonobe.

The Applicant respectfully submits that claim 15 is patentable over the cited references at least because it recites, "...a pump provided in the supply system, which is driven by *a sensorless motor* that detects at least a rotational position of the motor...", "...an abnormality detecting portion which detects a plurality of types of different abnormalities related to driving the motor...", and "...*an abnormality determining portion which determines that an abnormality has occurred in the supply system when an abnormality, regardless of type, has been detected a predetermined number of times by the abnormality detecting portion after an instruction has been given to start the motor until a predetermined period of time has passed.*" (emphasis added)

a. Takabayashi

First, with respect to Takabayashi, this reference describes a fuel cell generator controller that includes a hydrogen fuel source, a hydrogen-operated fuel source, and a pump driven by a motor. However, it is respectfully submitted that Takabayashi does not describe a *sensorless* motor as required by the invention of Applicant's claim 15. As stated in paragraphs [0009],

[0022], and [0028] of the current application, the sensorless motor is important, as the lack of a sensor on the motor “prevent[s] system operation interference due to sensor deterioration from hydrogen embrittlement.”

Also, certain embodiments of the present invention count the number of abnormalities that have occurred in the supply system in a predetermined time period, then compare the number of abnormalities with a predetermined number, which is set. In contrast, Takabayashi describes “when an abnormality occurs in the control section or an abnormality is received by the control section, the coil is excited to open a contact means 23b” in column 3, lines 19-25. That said, because the present invention counts the number of abnormalities and compares them with a predetermined number—where Takabayashi opens a contact means after a single abnormality, regardless of the location where the abnormality has occurred or determining whether it is an erroneous or not—in certain embodiments of the present invention it is possible to determine whether the abnormality is in the motor or in the supply system. Thus, erroneous determinations can be minimized (*See* paragraph [0009] of the current application).

Accordingly, Takabayashi does not disclose *each and every limitation* of claim 15, and the Applicant respectfully submits that, for at least the above-identified reasons, the rejection under § 102(b) should be withdrawn (and claim 15 as well as its dependent claims allowed).

b. Nonobe

Next, the Office Action has additionally rejected claim 15 as allegedly being unpatentable over Nonobe. However, it is respectfully submitted that this reference does not teach the use of a sensorless motor that powers a pump. In fact, Nonobe does not describe the use of a motor or any other source to power a pump. The use of a sensorless motor would not have been obvious because of the benefits described in paragraphs [0009], [0022], and [0028] of the current application. That being said, the Examiner has noted, however, that “it would have

¹ We note that the additional language of claim 22 clarifies the distinction between an actual abnormality (*e.g.*, when N is greater than or equal to Nref in step S150) and “an erroneous [abnormality] determination due to noise or the like,” as described in paragraph [0027] of the current application.

been obvious to one having ordinary skill in the art that a motor would be necessary in some manner in order to operate the pump as is known in the art.” (See Office Action at page 4).

The Applicant respectfully submits that neither Nonobe nor any of the other cited references support the position that one of ordinary skill would have modified Nonobe as alleged. Further, it is respectfully submitted that the Office Action is using hindsight to pick features of references without providing any reason in the prior art itself for making the alleged combination. See *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). It is not proper under 35 U.S.C. § 103 to use Applicant’s invention as a blueprint to pick and choose unrelated features of unrelated references to reproduce, in hindsight, Applicant’s invention.

Also, it appears that the Examiner is relying upon Official Notice. The Applicant respectfully traverses the Official Notice taken and requests evidence to substantiate the alleged motivations or reasons to modify Nonobe. More specifically, the Applicant respectfully requests evidence to substantiate the theory that it would have been obvious to one having ordinary skill in the art to use a motor to operate the pump. It is respectfully submitted that such support is required under MPEP 2144.02 and 2144.03.

Further, as stated above, certain embodiments of the present invention count the number of abnormalities that have occurred in the supply system in a predetermined time period, then compare the number of abnormalities with a predetermined number, which is set. More specifically, the invention of claim 15, as amended, requires that, “an abnormality determining portion which determines that an abnormality has occurred in the supply system when an abnormality, regardless of type, has been detected a predetermined number of times by the abnormality detecting portion after an instruction has been given to start the motor until a predetermined period of time has passed.” The Office Action, on page 4, alleges that Nonobe, in paragraphs 72-73, teaches such a detecting portion. However, it is respectfully submitted that the portions (i.e., paragraphs 72-73) of Nonobe relied upon in the Office Action do not teach or even remotely suggest the abnormality determining portion recited.

Therefore, based on at least these reasons, claim 15 and its dependent claims are patentable over Nonobe.

IV. Conclusion

In light of the above discussion, the Applicant respectfully submits that the present application is in all aspects in allowable condition, and earnestly solicits favorable reconsideration and early issuance of a Notice of Allowance.

The Examiner is invited to contact the undersigned at (202) 220-4420 to discuss any matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

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